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10. (Amended) A display device according to claim 2; wherein the wiring electrodes and the dummy electrode are plated by nonelectrolytic plating.

**ADDITIONAL FEES:**

No additional fees are believed required; however, should it be determined that a fee is due, authorization is hereby given to charge any such fee to our Deposit Account No. 01-0268.

**REMARKS**

In the final Office Action, claims 2-5 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 5,914,763 to Fujii et al. ("Fujii"). The Examiner stated that Fujii discloses a display device in Figs. 1, 4-7 and 11-13 comprising an insulating glass substrate on which a group of display electrodes 40, a group of wiring electrodes 41 and a group of connection pads are formed, the wiring electrodes being connected to the connection pads and arranged in at least one group, an opposing substrate opposed to the insulating substrate, a display material contained in a spacing between the insulating substrate and the opposing substrate in a sealed manner, and a dummy electrode provided

on the insulating substrate adjacent an outermost wiring electrode of each group of wiring electrodes, the dummy electrode not being connected to any of the connection pads, wherein the display electrodes are transparent electrodes and the wiring electrodes are formed by plating portions of the transparent electrodes extending beyond a side edge of the opposing substrate.

By the present response, non-elected claims 1, 6-9 and 11-20 have been canceled without prejudice to applicants' right to pursue the subject matter of these claims in a continuing application. Claim 2 has been amended in a clarifying respect to recite that the wiring electrodes are connected to the connection pads --and the display electrodes--, and that the wiring electrodes are --metallized-- by plating --only-- portions of the transparent electrodes extending beyond a side edge of the opposing substrate. In addition, dependent claim 10 has been amended to depend upon claim 2. Marked-up copies of the amended claims are submitted concurrently herewith in an attachment to this amendment entitled **"Version With Markings to Show Changes Made."**

Entry of the foregoing amendments is most respectfully requested since they do not raise any new issues or necessitate further consideration or search. In addition,

the requested amendments substantially narrow the scope of issues that would be presented in an appeal. Claim 10 is a relatively narrow dependent claim the subject matter of which was already considered by the Examiner in connection with its dependency on claim 1. The changes made to claim 2 are of a clarifying nature in that the claim has merely been amended to clarify that the wiring electrodes are connected to the display electrodes as well as the connection pads and that they are plated only beyond the side edge of the opposing substrate. Claim 2 has been amended to recite structure which was already inherently embodied in the claim. The wiring electrodes of the claimed display device extend from the display electrodes to the connection pads and are inherently connected to the display electrodes to enable driving of the display device. Since the wiring electrodes comprise a metallized portion of the transparent electrodes that extends beyond the opposing substrate, claim 2 inherently recited that the wiring electrodes are plated only beyond the opposed substrate. Thus, the clarifying amendments made to claim 2 recite subject matter that was inherent to claim 2 when the claim was properly interpreted in light of the specification.

Applicants respectfully submit that claims 2-5 and 10 patentably distinguish over the prior art of record.

The present invention relates to a display device having transparent electrodes with metallized wiring portions. Figs. 2A and 2B of the application drawings illustrate a conventional chip-on-glass display device. Transparent ITO electrodes are formed on a glass substrate 1. Different portions of the transparent electrodes serve as display electrodes 4 and wiring electrodes 6. The wiring electrodes 6 comprise metallized portions of the transparent electrodes extending beyond an opposing substrate 2. The glass substrate 1 and the opposing substrate 2 are attached to each other by a sealing material 3 with a spacing of about 5 to 7  $\mu\text{m}$  therebetween. A liquid crystal material 5 is injected and sealed in the space. Pads 7 are formed on terminal ends of the wiring electrodes 6 corresponding to input/output terminals of a semiconductor chip.

Thus, the wiring electrodes 6 comprise the portion of the display electrodes that extends beyond the opposing substrate 2 and are selectively plated by nonelectrolytic nickel plating. The plating liquid has a smaller angle of contact on the ITO surface of the transparent electrodes than on the glass surface and the glass surface repels the plating liquid in comparison to the ITO surface. However, the plating liquid easily remains at a step formed by the glass substrate 1 and the opposing substrate 2 and between an adjacent pair of

wiring electrodes, covering the glass portion where no wiring electrode exists.

Figs. 2A and 2B show plating liquid 9 remaining between the outermost wiring electrode and the wiring electrode adjacent thereto. A bridge 10 of nickel thin film can thus form along the periphery of the mass of remaining plating liquid 9 between the wiring electrodes to short-circuit adjacent wiring electrodes.

The present invention overcomes the foregoing problem by providing a liquid crystal display device having an insulating substrate and an opposing substrate with wiring electrodes on the insulating substrate extending beyond a side edge of the opposing substrate such that a bridge short circuit can occur particularly easily, and a dummy electrode formed adjacent to an outermost wiring electrode so that even if a bridge short circuit occurs, a malfunction is avoided.

Amended independent claim 2 recites the foregoing structure including the recitation that the wiring electrodes are metallized by plating only portions of the transparent electrodes extending beyond a side edge of the opposing substrate.

The cited references fail to disclose or suggest the claimed subject matter.

The wiring electrodes of Fujii do not extend beyond a side edge of an opposing substrate as required by independent claim 2. Moreover, the wiring electrodes are not plated only beyond the opposing substrate.

The inventive display device has an insulating substrate and an opposing substrate and wiring electrodes formed on the insulating substrate to extend beyond the side edge of the opposing substrate. The wiring electrodes are plated only to the extent that they extend beyond the side edge of the opposing substrate.

Although Fujii discloses a liquid crystal display device having various features recited in claim 2, the reference fails to disclose that the wiring electrodes are plated only to the extent that they extend beyond the side edge of the opposing substrate. Moreover, Fujii does not disclose or suggest that the wiring electrodes extend beyond the side edge of an opposing substrate,.

Anticipation under 35 U.S.C. §102 requires the identical disclosure by a single reference of all claimed subject matter. See W.L. Gore & Associates v. Garlock, Inc., 220 USPQ 303, 313 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984) ("Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration"). The cited reference to Fujii fails to

disclose the plating structure of the wiring electrodes recited by independent claim 2. Thus, Fujii does not anticipate independent claim 2.

Nor does Fujii render obvious the subject matter of claim 2. A claim rejection based upon obviousness must be supported by an evidentiary basis establishing the obviousness of every limitation of a rejected claim. When an obviousness rejection is based upon the obviousness of a proposed modification, such modification must also be suggested by the prior art. In re Fritch, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992) ("The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification"). Fujii would not have suggested the modifications required to its display device to fall within the scope of amended independent claim 2.

Accordingly, applicants respectfully submit that claims 2-5 and 10 patentably distinguish over the prior art of record.

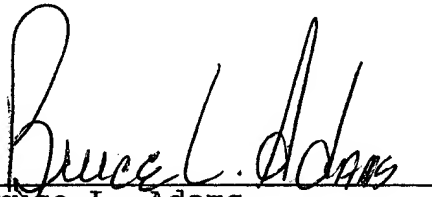
In view of the foregoing amendments and discussion, the application is now believed to be in condition for allowance. Accordingly, entry of the present amendment

together with favorable reconsideration and allowance of the claims are most respectfully requested.

Respectfully submitted,

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MAILING CERTIFICATE

I hereby certify that this correspondence is being deposited with the United States Postal Service as first-class mail in an envelope addressed to:  
COMMISSIONER OF PATENTS & TRADEMARKS, Washington, D.C. 20231, on the date indicated below.

Debra Buonincontri

Name



Signature

April 16, 2003

Date



VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claims 2 and 10 have been amended as follows:

2. (Twice Amended) A display device comprising:

an insulating substrate on which a group of display electrodes, a group of wiring electrodes and a group of connection pads are formed, the wiring electrodes being connected to the connection pads and the display electrodes and being arranged in at least one group;

an opposing substrate opposed to the insulating substrate;

a display material contained in a spacing between the insulating substrate and the opposing substrate in a sealed manner; and

a dummy electrode provided on the insulating substrate adjacent an outermost wiring electrode of each group of wiring electrodes, the dummy electrode not being connected to any of the connection pads;

wherein the display electrodes are transparent electrodes, and the wiring electrodes are metallized [formed] by plating only portions of the transparent electrodes extending beyond a side edge of the opposing substrate.

10. (Amended) A display device according to claim 2; [1;] wherein the wiring electrodes and the dummy electrode are plated by [plating is] nonelectrolytic [nickel] plating.